



UNITED STATES PATENT AND TRADEMARK OFFICE

PL

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,848	12/19/2001	Mohammed N. Islam	20434-758	8994
5073	7590	01/30/2004	EXAMINER	
BAKER BOTTS L.L.P. 2001 ROSS AVENUE SUITE 600 DALLAS, TX 75201-2980			MONBLEAU, DAVIENNE N	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

RF

Office Action Summary

Application No.

10/033,848

Applicant(s)

ISLAM, MOHAMMED N.

Examiner

Davienne Monbleau

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 95-97, 99, 100 and 102-104 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 95-97, 99, 100 and 102-104 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6/10/03. 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

The amendment filed on 8/7/03 has been entered. Claims 95, 99, 102, and 103 have been amended. Claims 95-97, 99, 100 and 102-104 are pending.

Information Disclosure Statement

The IDS filed on 6/10/03 and 12/10/03 have been acknowledged. A signed copy of each PTO-1449 is attached herein. The IDS filed on 8/7/03 is a duplicate of the IDS filed on 6/10/03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 95-97, 99, 100 and 102-104 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. (US 6,091,538) in view of Kim et al. (US 5,815,308). Regarding Claim 99, Takeda et al. teach in Figure 6 an amplifier system comprising a splitter (30), a first amplifier coupled to the splitter (32), a second amplifier coupled to the splitter (34), and a combiner (38). It is inherent in an optical communication system that fibers are used to connect the optical devices. Takeda et al. further teach in column 2 lines 60-65 that said amplifiers might be rare earth doped optical amplifiers, but do not teach Raman amplifiers. Kim et al. teach in column 6 lines 53-62 that it is known in the art to substitute one kind of amplifier for another. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a Raman amplifier in Takeda et al., as taught by Kim et al., because it is known

Art Unit: 2878

in the art to substitute various kinds of amplifiers for application for different optical communication devices since different amplifiers have different advantages at particular wavelengths.

Regarding Claim 102, Takeda et al. teach in Figure 6 an amplifier system comprising a splitter (30), a first amplifier coupled to the splitter (32), a second amplifier coupled to the splitter (34), and a combiner (38). It is inherent in an optical communication system that fibers are used to connect the optical devices. Takeda et al. further teach in column 2 lines 60-65 that said amplifiers might be rare earth doped optical amplifiers, but do not teach Raman amplifiers. Kim et al. teach in column 6 lines 53-62 that it is known in the art to substitute one kind of amplifier for another. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a Raman amplifier in Takeda et al., as taught by Kim et al., because it is known in the art to substitute various kinds of amplifiers for application for different optical communication devices and since different amplifiers have different advantages at particular wavelengths.

Regarding Claim 103, Takeda et al. teach in Figure 6 an amplifier system comprising a splitter (30), a gain medium (32) coupled to the splitter, a rare earth doped amplifier (34) coupled to the splitter, and a combiner (38). It is inherent in an optical communication system that fibers are used to connect the optical devices. Takeda et al. do not teach providing gain through a third order non-linearity. Kim et al. teach in column 6 lines 53-62 that it is known in the art to substitute one kind of amplifier for another, which would affect the type of gain. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the desired amplifier in Takeda et al., as taught by Kim et al., because it is known in the art to

substitute various kinds of amplifiers for application for different optical communication devices and to achieve a desired amplification or gain, such as third order non-linearity.

Regarding Claim 100, Takeda et al. teach in Figure 6 that a first set of wavelengths go into a first amplifier (32) and a second set of wavelengths go into a second amplifier (34).

Regarding Claim 104, Takeda et al. teach in Figure 6 that a first set of wavelengths go into a gain medium (32) and a second set of wavelengths go into an amplifier (34).

Regarding Claims 95-97, the method of a device is not germane to the issue of patentability of the device itself, since the device itself obviously uses the method. Therefore the rejection used on the device applies also to the method of the device. (See rejection on Claim 102).

Further regarding Claim 96, Takeda et al. teach in column 1 lines 19-20 an erbium-doped optical fiber.

Further regarding Claim 97, Takeda et al. do not teach that said amplifier broadens the spectrum. However, it is well known in the art that amplifiers may be used to broaden the spectrum of an output beam, which would be advantageous in telecommunication systems.

Response to Arguments

Applicant's arguments filed 8/7/03 have been fully considered but they are not persuasive.

The Applicant argues that Tekada et al. do not teach a second pump wavelength that is "substantially different" than the first pump wavelength. The claims do not require specific wavelengths, only that the wavelengths are "substantially different". Furthermore, the phrase "substantially different" is not defined within the specification to mean a specific

Art Unit: 2878

range/difference. Tekada et al. teach in Figure 6 that wavelengths 1-4 go to a first amplifier (32) and wavelengths 5-8 go to a second amplifier (34). Thus, each amplifier is considered to have substantially different pump wavelengths and Tekada et al. reads on the claim language.

Furthermore, regarding Claim 102, Applicant's argument is not persuasive because it pertains to limitations ("substantially different") that are not within the claim language. Claim 102 requires that a first pump wavelength is larger than a second pump wavelength, which Tekada et al. teach in Figure 6.

The Applicant argues that Tekada et al. do not teach the coupling of one or more Raman amplifiers to the splitter and coupling one or more rare-earth doped optical amplifiers to the splitter. Tekada et al. teach in column 2 lines 60-65 that said amplifiers may be erbium doped optical amplifiers, which are rare-earth doped amplifiers. Tekada et al. do not teach Raman amplifiers. However, Kim et al. teach in column 6 lines 53-62 that it is known in the art to substitute one kind of amplifier for another, which includes substituting a Raman amplifier for a erbium-doped fiber. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a Raman amplifier in Takeda et al., as taught by Kim et al., because it is known in the art to substitute various kinds of amplifiers for application for different optical communication devices since different amplifiers have different advantages at particular wavelengths.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2878

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 571-272-1945. The examiner can normally be reached on Mon-Fri 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Davienne Monbleau
DNM

ai
ALBERT GAGLIARDI
PRIMARY EXAMINER
ART UNIT 2878